IPM 5421 & 5422

**Wire Rod and Bar Division**
MASSENA OPERATIONS

FROM: J. T. FREER
MASSENA OPERATIONS

TO: SANDRA RIPPENTROP
LOS ANGELES SALES OFFICE

1982 September 01

RE: MATERIAL SAFETY DATA SHEET
REf: Almigweld/Altigweld - Alloy 4047

We have been advised that Douglas Aircraft Company has requested Material Safety Data Sheets for brazing wire alloy 4047.

Enclosed is the completed form for forwarding to your customer.

J. T. FREER

JTF:ja

Enclosure

Cc: F. L. King - Massena - 59A
J. P. Knieriem - Massena
R. W. Sauer - Pittsburgh

ALCOA

# MATERIAL SAFETY DATA SHEET No. 214

ALCOA

| HAZARD CHARACTERISTICS | | | |
|---|---|---|---|
| ☐ Flammable | ☐ Combustible | *Toxic By:* | |
| ☐ Corrosive | ☐ Explosive | ☐ Ingestion | |
| ☐ Water Reactive | ☐ Radioactive | ☒ Inhalation | |
| ☐ Oxidizer | ☐ Chemically Reactive | ☐ Absorption | |

PRODUCT
ALCOA WELDING WIRE
MASSENA, NEW YORK
Phone No 315/764-4733
Date: 1981-12-09

## Section I. MATERIAL DESCRIPTION

Chemical Name & Formula:
Other Designation: Alcoa Almigweld (spooled electrode), Alcoa Altigweld (straight length welding rod), and Alcoa Coiled Welding Wire Alloys.
Corporate Stock No.:
Manufacturer: Alcoa

## Section II. INGREDIENTS

| Alloy | %Al(min) | Concentration of all other elements which are greater than 1% Copper | Magnesium | Silicon | Corp. Stock No. |
|---|---|---|---|---|---|
| 1100 | 99.0 | -- | -- | -- | 240-590 |
| 1199 | 99.99 | -- | -- | -- | |
| 2319 | 91.8 | 5.9-6.6* | -- | -- | |
| 4145 | 83.0 | 3.3-4.7* | -- | 9.3-10.7 | |
| 4043 | 92.3 | -- | -- | 4.5- 6.0 | 240-595 |
| 4047 | 85.3 | -- | -- | 11.0-13.0 | |
| 5183 | 92.0 | -- | 4.3-5.2 | -- | |
| 5356 | 92.0 | -- | 4.5-5.5 | -- | 240-597 |
| 5554 | 92.0 | -- | 2.4-3.0 | -- | |
| 5556 | 92.0 | -- | 4.7-5.5 | -- | 240-598 |
| 5654 | 92.0 | -- | 3.1-3.9 | -- | |

### HAZARD DATA

Total Welding Fume: 5 mg/m$^3$ (ACGIH TLV - 1980)

Ozone - 0.1 ppm (OSHA PE
Above data applies to all alloys.
*Copper fume - 0.1 mg/m$^3$ (OSHA PEL)
Applies to 2 alloys only
2319 & 4145

## Section III. PHYSICAL DATA

Physical Form: ..... Solid
Boiling Temp.:
Freeze-Melt Temp.. ..... 1065-1215°F (574-657°C)
Vapor Pressure:
Evaporation Rate:
Specific Gravity:
Density:
"Solubility In $H_2O$":
Color: ..... Silvery
Odor: ..... None

Date - 9/1/82

## Section IV. FIRE AND EXPLOSION DATA

| Flashpoint | Auto-Ignition Temp. | Flammability Limits In Air | Lower | Upper |
|---|---|---|---|---|
| | | | | |

Not applicable

## Section V. REACTIVITY DATA

This product is stable, without any serious incompatibilities. However, the ultraviolet light produced while welding will result in the formation of ozone.

Section VI. HEALTH HAZARD INFORMATION | TLV See Section II

Welding fumes cannot be classified simply. Their composition and quantity are dependent on the alloy being welded and on the process and electrodes used. Reliable analysis of fumes cannot be made without considering the nature of the welding process and system being examined. Reactive metals and alloys such as aluminum are welded in a protective, inert atmosphere, such as argon. These arcs create relatively little fume, but an intense ultraviolet radiation which produces ozone.

Section VII. SPILL, LEAK & DISPOSAL PROCEDURES

EPA Hazardous Waste No. NOT REGULATED

Section VIII. SPECIAL PROTECTION INFORMATION

Use with adequate ventilation, particularly when welding is being done in a confined space. Where respiratory protection is required, NIOSH approved respiratory protection should be used. The selection of the appropriate respiratory protection (fume respirator, supplied-air respirator, self-contained breathing apparatus, etc.) should be based on the actual or potential airborne contaminants and their concentrations present.

Refer to 29 CFR 1910.252 for regulations concerning eye protection, other personal protective equipment, and other safety precautions.

Section IX. SPECIAL PRECAUTIONS & COMMENTS

*D.O.T. Requirements* NOT REGULATED

Section X. REFERENCES

ASTM No.: —

CAS No.:

CMA Chemical Safety Data Sheet No.:

NFPA Guides

NSC Data Sheets:

Supplier Product Literature:

Other: ANSI Z49.1

*Information herein is given in good faith as authoritative and valid; however, no warranty expressed or implied, can be made.*